

CLAIMS:

1. A display device comprising electrophoretic particles, a display element comprising a pixel electrode and a counter electrode between which a portion of the electrophoretic particles are present, and control means for supplying a drive signal to the electrodes to bring the display element in a predetermined optical state corresponding to the
5 image information to be displayed, characterized in that control means are further arranged for supplying a preset signal preceding the drive signal comprising a preset pulse having an energy sufficient to release the electrophoretic particles at a first position near one of the two electrodes corresponding to a first optical state, but too low to enable the particles to reach a second position near the other electrode corresponding to a second optical state, wherein the
10 duration of the preset pulse is less than 19 msec.
2. A display device as claimed in claim 1, wherein the control means are arranged for supplying a set of preset pulse, wherein the duration of the majority, preferably all, of the preset pulses is less than 19 msec.
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3. A display device as claimed in claim 1 or 2, wherein the duration of the preset pulse or pulses is more than 0.5 msec.
4. A display device as claimed in claim 1 or 2, wherein the duration of the preset
20 pulse or preset pulses lies between 1 and 15 msec.
5. A display device as claimed in claim 4, wherein the duration of the preset pulse or preset pulses lies between 2 and 10 msec.
- 25 6. A display device as claimed in claim 5, wherein the duration of the preset pulse or preset pulse lies between 3 and 5 msec.
7. A display device as claimed in claim 1, wherein the control means being further arranged for generating the preset pulse with a negative or positive polarity and the

control means being further arranged for generating the drive signal comprising a pulse with a negative or positive polarity, whereby the polarity of the preset pulse is opposite to the polarity of the pulse of the data signal.

- 5 8. A display device as claimed in claim 7 wherein the control means being further arranged for generating an even number of preset pulses.
9. A display device as claimed in claim 1 wherein one of the electrodes comprises a data electrode and the other electrode comprises a selection electrode and the control means further comprising first drive means for applying a selection signal to the selection electrodes and second drive means for applying a data signal to the data electrode.
- 10 10. A display device as claimed in claim 1 wherein the pixel electrode of the display element is being coupled to a selection electrode or a data electrode via a switching element, and the control means further comprising first drive means for applying a selection signal to the selection electrodes and second drive means for applying a data signal to the data electrode.
- 15 11. A display device as claimed in claim 9 or 10, wherein selection electrodes associated with display elements are interconnected in two groups, and the control means being arranged for generating a first preset signal having a first phase to the first group and a second preset signal to the second group having a second phase opposite to the first phase.
- 20 12. A display device as claimed in claim 9 or 10, wherein the second drive means are arranged for generating the preset signal.
- 25 13. A display device as claimed in claim 9 or 10, wherein the pixel electrode is coupled to the control means for generation of the preset signal via the counter electrode.
- 30 14. A display device as claimed in claim 13, wherein the counter electrode is divided into two portions, wherein each portion is associated with a set of display elements connected via a selection electrode.

15. A display device as claimed in claim 10, wherein the pixel electrode is coupled via a first additional capacitive element to the control means for receiving the preset signal.
- 5 16. A display device as claimed in claim 10, wherein the pixel electrode is being coupled to the control means via a further switching element.
17. A display device as claimed in claim 1, wherein the display comprises two substrates one of which is transparent and the electrophoretic particles are present between
10 the two substrates.
18. A display device as claimed in claim 1, wherein the electrophoretic material is an encapsulated electrophoretic material.